

Serial No. 10/054,447

PATENT  
Attorney Docket: P9170.00CLAIMS

The following listing of claims replaces all prior listings of the claims and indicates the current status of all pending claims in the application.

1. (Previously presented) A method of coating a hydrophilic polymer on a surface of a medical device, wherein;

(a) the medical device has a catechol moiety disposed on the surface of said device; and

(b) the hydrophilic polymer comprises a guanidino moiety, wherein; the method comprises coating the medical device with the hydrophilic polymer to form a chemical bond between the guanidino moiety of the hydrophilic polymer and the catechol moiety of the medical device surface.

2. (Original) The method of claim 1 wherein the device is selected from the group consisting of a blood-contacting medical device, a tissue-contacting medical device, a bodily fluid-contacting medical device, an implantable medical device, an extracorporeal medical device, a blood oxygenator, a blood pump, a blood sensor, tubing for carrying blood, an endoprosthesis medical device, a vascular graft, a stent, a pacemaker lead, a heart valve, temporary intravascular medical device, a catheter and a guide wire.

3. (Original) The method of claim 1 wherein at least a portion of the surface forms at least one of a tube, a rod, a membrane, a balloon, a bag and a sheet.

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4. (Original) The method of claim 1 wherein the surface comprises at least one of a biocompatible material selected from the group consisting of a metal, a titanium, a titanium alloy, a tin-nickel alloy, a shape memory alloy, an aluminum oxide, a platinum, a platinum alloy, a stainless steel, a MP35N stainless steel, a elgiloy, a stellite, a pyrolytic carbon, a silver carbon, a glassy carbon, a polymer, a polyamide, a polycarbonate, a polyether, a polyester, a polyolefin, a polyethylene, a polypropylene, a polystyrene, a polyurethane, a polyvinylchloride, a polyvinylpyrrolidone, a silicone elastomer, a fluoropolymer, a polyacrylate, a polyisoprene, a polytetrafluoroethylene, a rubber, a ceramic, a hydroxapatite, a human protein, a human tissue, an animal protein, an animal tissue, a bone, a skin, a tooth, a collagen, a laminin, a elastin, a fibrin, a wood, a cellulose, a compressed carbon and a glass.

5. (Original) The method of claim 1 wherein the hydrophilic polymer is selected from the group consisting of a water-soluble polymer, a water-swellable polymer, a polymer comprising a hydrophilic chemical moiety, a polymer used to reduce friction on a surface, an acrylamide polymer, a methacrylamide polymer, a 2-acrylamido-2-methylpropane sulfonic acid polymer, an acrylic acid polymer, a N-(3-aminopropyl) methacrylamide hydrochloride polymer, a polyvinylpyrrolidone, a polyethylene oxide polymer, a saccharide, a glycan, a hyaluronic acid polymer, a chondroitin sulfate polymer, a poly(alkylene oxalate) polymer, poly(vinyl alcohol) polymer, an ionene polymer, a caprolactone copolymer, a chitin polymer, an agarose polymer, a cellulosic polymer, a poly(maleic anhydride) polymer and a polysaccharide.

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6. (Original) The method of claim 1 wherein the hydrophilic polymer is a naturally occurring hydrophilic polymer.

7. (Original) The method of claim 1 wherein the hydrophilic polymer is a chemically synthesized hydrophilic polymer.

8. (Original) The method of claim 1 wherein the hydrophilic polymer has a molecular weight between about 100,000 and about 2,000,000.

9. (Original) The method of claim 1 wherein the surface comprises a primer.

10. (Original) The method of claim 9 wherein the primer comprises the catechol moiety.

11 - 51. (Canceled)

52. (Previously presented) A method of coating a hydrophilic polymer on a surface of a medical device, wherein;

(a) the medical device has a guanidino moiety disposed on the surface of said device; and

(b) the hydrophilic polymer comprises a catechol moiety, wherein; the method comprises coating the medical device with the hydrophilic polymer to form a chemical bond between the catechol moiety of the hydrophilic polymer and the guanidino moiety of the medical device surface.

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53. (Original) The method of claim 52 wherein the device is selected from the group consisting of a blood-contacting medical device, a tissue-contacting medical device, a bodily fluid-contacting medical device, an implantable medical device, an extracorporeal medical device, a blood oxygenator, a blood pump, a blood sensor, tubing for carrying blood, an endoprosthesis medical device, a vascular graft, a stent, a pacemaker lead, a heart valve, temporary intravascular medical device, a catheter and a guide wire.

54. (Original) The method of claim 52 wherein at least a portion of the surface forms at least one of a tube, a rod, a membrane, a balloon, a bag and a sheet.

55. (Original) The method of claim 52 wherein the surface comprises at least one of a biocompatible material selected from the group consisting of a metal, a titanium, a titanium alloy, a tin-nickel alloy, a shape memory alloy, an aluminum oxide, a platinum, a platinum alloy, a stainless steel, a MP35N stainless steel, a elgiloy, a stellite, a pyrolytic carbon, a silver carbon, a glassy carbon, a polymer, a polyamide, a polycarbonate, a polyether, a polyester, a polyolefin, a polyethylene, a polypropylene, a polystyrene, a polyurethane, a polyvinylchloride, a polyvinylpyrrolidone, a silicone elastomer, a fluoropolymer, a polyacrylate, a polyisoprene, a polytetrafluoroethylene, a rubber, a ceramic, a hydroxapatite, a human protein, a human tissue, an animal protein, an animal tissue, a bone, a skin, a tooth, a collagen, a laminin, a elastin, a fibrin, a wood, a cellulose, a compressed carbon and a glass.

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56. (Original) The method of claim 52 wherein the hydrophilic polymer is selected from the group consisting of a water-soluble polymer, a water-swellable polymer, a polymer comprising a hydrophilic chemical moiety, a polymer used to reduce friction on a surface, an acrylamide polymer, a methacrylamide polymer, a 2-acrylamido-2-methylpropane sulfonic acid polymer, an acrylic acid polymer, a N-(3-aminopropyl) methacrylamide hydrochloride polymer, a polyvinylpyrrolidone, a polyethylene oxide polymer, a saccharide, a glycan, a hyaluronic acid polymer, a chondroitin sulfate polymer, a poly(alkylene oxalate) polymer, poly(vinyl alcohol) polymer, an ionene polymer, a caprolactone copolymer, a chitin polymer, an agarose polymer, a cellulosic polymer, a poly(maleic anhydride) polymer and a polysaccharide.

57. (Original) The method of claim 52 wherein the hydrophilic polymer is a naturally occurring hydrophilic polymer.

58. (Original) The method of claim 52 wherein the hydrophilic polymer is a chemically synthesized hydrophilic polymer.

59. (Original) The method of claim 52 wherein the hydrophilic polymer has a molecular weight between about 100,000 and about 2,000,000.

60. (Original) The method of claim 52 wherein the surface comprises a primer.

61. (Previously presented) The method of claim 60 wherein the primer comprises the guanidino moiety.

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62 - 102. (Canceled)

103. (Previously presented) A method of coating a biomolecule on a surface of a medical device, wherein;

- (a) the medical device has a hydrophilic polymer comprising a catechol moiety disposed on the surface of said device; and
- (b) the biomolecule comprises a guanidino moiety, wherein;  
the method comprises coating the medical device with the biomolecule to form a chemical bond between the guanidino moiety of the biomolecule and the catechol moiety of the hydrophilic polymer.

104. (Original) The method of claim 103 wherein the device is selected from the group consisting of a blood-contacting medical device, a tissue-contacting medical device, a bodily fluid-contacting medical device, an implantable medical device, an extracorporeal medical device, a blood oxygenator, a blood pump, a blood sensor, tubing for carrying blood, an endoprostheses medical device, a vascular graft, a stent, a pacemaker lead, a heart valve, temporary intravascular medical device, a catheter and a guide wire.

105. (Original) The method of claim 103 wherein at least a portion of the surface forms at least one of a tube, a rod, a membrane, a balloon, a bag and a sheet.

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106. (Original) The method of claim 103 wherein the surface comprises at least one of a biocompatible material selected from the group consisting of a metal, a titanium, a titanium alloy, a tin-nickel alloy, a shape memory alloy, an aluminum oxide, a platinum, a platinum alloy, a stainless steel, a MP35N stainless steel, a elgiloy, a stellite, a pyrolytic carbon, a silver carbon, a glassy carbon, a polymer, a polyamide, a polycarbonate, a polyether, a polyester, a polyolefin, a polyethylene, a polypropylene, a polystyrene, a polyurethane, a polyvinylchloride, a polyvinylpyrrolidone, a silicone elastomer, a fluoropolymer, a polyacrylate, a polyisoprene, a polytetrafluoroethylene, a rubber, a ceramic, a hydroxapatite, a human protein, a human tissue, an animal protein, an animal tissue, a bone, a skin, a tooth, a collagen, a laminin, a elastin, a fibrin, a wood, a cellulose, a compressed carbon and a glass.

107. (Original) The method of claim 103 wherein the hydrophilic polymer is selected from the group consisting of a water-soluble polymer, a water-swellable polymer, a polymer comprising a hydrophilic chemical moiety, a polymer used to reduce friction on a surface, an acrylamide polymer, a methacrylamide polymer, a 2-acrylamido-2-methylpropane sulfonic acid polymer, an acrylic acid polymer, a N-(3-aminopropyl) methacrylamide hydrochloride polymer, a polyvinylpyrrolidone, a polyethylene oxide polymer, a saccharide, a glycan, a hyaluronic acid polymer, a chondroitin sulfate polymer, a poly(alkylene oxalate) polymer, poly(vinyl alcohol) polymer, an ionene polymer, a caprolactone copolymer, a chitin polymer, an agarose polymer, a cellulosic polymer, a poly(maleic anhydride) polymer and a polysaccharide.

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108. (Original) The method of claim 103 wherein the hydrophilic polymer is a naturally occurring hydrophilic polymer.

109. (Original) The method of claim 103 wherein the hydrophilic polymer is a chemically synthesized hydrophilic polymer.

110. (Original) The method of claim 103 wherein the hydrophilic polymer has a molecular weight between about 100,000 and about 2,000,000.

111. (Original) The method of claim 103 wherein the surface comprises a primer.

112. (Original) The method of claim 103 wherein the biomolecule is selected from the group consisting of an anticoagulant agent, an antithrombotic agent, a clotting agent, a platelet agent, a blood agent, an anti-inflammatory, an antibody, an antigen, an immunoglobulin, a defense agent, an enzyme, a hormone, a growth factor, a neurotransmitter, a cytokine, a regulatory agent, a transport agent, a fibrous agent, a viral agent, a protein, a glycoprotein, a globular protein, a structural protein, a membrane protein, a cell attachment protein, a viral protein, a peptide, a glycopeptide, a structural peptide, a membrane peptide, a cell attachment peptide, a proteoglycan, a toxin, an antibiotic agent, antibacterial agent, antimicrobial agent, a polysaccharide, a carbohydrate, a fatty acid, a catalyst, a drug, a vitamin, a DNA segment, a RNA segment, a nucleic acid, a lectin, a dye and a ligand.

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113. (Original) The method of claim 103 wherein the biomolecule is a naturally occurring biomolecule.

114. (Original) The method of claim 103 wherein the biomolecule is a chemically synthesized biomolecule.

115 - 161. (Canceled)

162. (Previously presented) A method of coating a biomolecule on a surface of a medical device, wherein;

(a) the medical device has a hydrophilic polymer comprising a guanidino moiety disposed on the surface of said device; and

(b) the biomolecule comprises a catechol moiety, wherein;  
the method comprises coating the medical device with the biomolecule to form a chemical bond between the catechol moiety of the biomolecule and the guanidino moiety of the hydrophilic polymer.

163. (Original) The method of claim 162 wherein the device is selected from the group consisting of a blood-contacting medical device, a tissue-contacting medical device, a bodily fluid-contacting medical device, an implantable medical device, an extracorporeal medical device, a blood oxygenator, a blood pump, a blood sensor, tubing for carrying blood, an endoprosthesis medical device, a vascular graft, a stent, a pacemaker lead, a heart valve, temporary intravascular medical device, a catheter and a guide wire.

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164. (Original) The method of claim 162 wherein at least a portion of the surface forms at least one of a tube, a rod, a membrane, a balloon, a bag and a sheet.

165. (Original) The method of claim 162 wherein the surface comprises at least one of a biocompatible material selected from the group consisting of a metal, a titanium, a titanium alloy, a tin-nickel alloy, a shape memory alloy, an aluminum oxide, a platinum, a platinum alloy, a stainless steel, a MP35N stainless steel, a elgiloy, a stellite, a pyrolytic carbon, a silver carbon, a glassy carbon, a polymer, a polyamide, a polycarbonate, a polyether, a polyester, a polyolefin, a polyethylene, a polypropylene, a polystyrene, a polyurethane, a polyvinylchloride, a polyvinylpyrrolidone, a silicone elastomer, a fluoropolymer, a polyacrylate, a polyisoprene, a polytetrafluoroethylene, a rubber, a ceramic, a hydroxapatite, a human protein, a human tissue, an animal protein, an animal tissue, a bone, a skin, a tooth, a collagen, a laminin, a elastin, a fibrin, a wood, a cellulose, a compressed carbon and a glass.

166. (Original) The method of claim 162 wherein the hydrophilic polymer is selected from the group consisting of a water-soluble polymer, a water-swellable polymer, a polymer comprising a hydrophilic chemical moiety, a polymer used to reduce friction on a surface, an acrylamide polymer, a methacrylamide polymer, a 2-acrylamido-2-methylpropane sulfonic acid polymer, an acrylic acid polymer, a N-(3-aminopropyl) methacrylamide hydrochloride polymer, a polyvinylpyrrolidone, a polyethylene oxide polymer, a saccharide, a glycan, a hyaluronic acid polymer, a chondroitin sulfate polymer, a poly(alkylene oxalate) polymer, poly(vinyl alcohol) polymer, an ionene

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polymer, a caprolactone copolymer, a chitin polymer, an agarose polymer, a cellulosic polymer, a poly(maleic anhydride) polymer and a polysaccharide.

167. (Original) The method of claim 162 wherein the hydrophilic polymer is a naturally occurring hydrophilic polymer.

168. (Original) The method of claim 162 wherein the hydrophilic polymer is a chemically synthesized hydrophilic polymer.

169. (Original) The method of claim 162 wherein the hydrophilic polymer has a molecular weight between about 100,000 and about 2,000,000.

170. (Original) The method of claim 162 wherein the surface comprises a primer.

171. (Original) The method of claim 162 wherein the biomolecule is selected from the group consisting of an anticoagulant agent, an antithrombotic agent, a clotting agent, a platelet agent, a blood agent, an anti-inflammatory, an antibody, an antigen, an immunoglobulin, a defense agent, an enzyme, a hormone, a growth factor, a neurotransmitter, a cytokine, a regulatory agent, a transport agent, a fibrous agent, a viral agent, a protein, a glycoprotein, a globular protein, a structural protein, a membrane protein, a cell attachment protein, a viral protein, a peptide, a glycopeptide, a structural peptide, a membrane peptide, a cell attachment peptide, a proteoglycan, a toxin, an antibiotic agent, antibacterial agent, antimicrobial agent, a

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polysaccharide, a carbohydrate, a fatty acid, a catalyst, a drug, a vitamin, a DNA segment, a RNA segment, a nucleic acid, a lectin, a dye and a ligand.

172. (Original) The method of claim 162 wherein the biomolecule is a naturally occurring biomolecule.

173. (Original) The method of claim 162 wherein the biomolecule is a chemically synthesized biomolecule.

174 - 232. (Canceled)

233. (Previously presented) A coated medical device comprising a catechol moiety disposed on the surface of the medical device and a hydrophilic polymer comprising a guanidino moiety, wherein the guanidino moiety is chemically bonded to the catechol moiety.

234. (Previously presented) A coated medical device comprising a guanidino moiety disposed on the surface of the medical device and a hydrophilic polymer comprising a catechol moiety, wherein the catechol moiety is chemically bonded to the guanidino moiety.

235. (Previously presented) A coated medical device comprising a hydrophilic polymer disposed on the surface of the medical device, the hydrophilic polymer

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comprising a catechol moiety, and a biomolecule comprising a guanidino moiety, wherein the guanidino moiety is chemically bonded to the catechol moiety.

236. (Previously presented) A coated medical device comprising a hydrophilic polymer disposed on the surface of the medical device, the hydrophilic polymer comprising a guanidino moiety, and a biomolecule comprising a catechol moiety, wherein the catechol moiety is chemically bonded to the guanidino moiety.

237. (Previously presented) The medical device of claim 235 wherein the medical device is selected from the group consisting of a blood-contacting medical device, a tissue-contacting medical device, a bodily fluid-contacting medical device, an implantable medical device, an extracorporeal medical device, a blood oxygenator, a blood pump, a blood sensor, tubing for carrying blood, an endoprostheses medical device, a vascular graft, a stent, a pacemaker lead, a heart valve, temporary intravascular medical device, a catheter and a guide wire.

238. (Previously presented) The medical device of claim 235 wherein at least a portion of the surface forms at least one of a tube, a rod, a membrane, a balloon, a bag and a sheet.

239. (Previously presented) The medical device of claim 235 wherein the surface comprises at least one of a biocompatible material selected from the group consisting of a metal, a titanium, a titanium alloy, a tin-nickel alloy, a shape memory alloy, an aluminum oxide, a platinum, a platinum alloy, a stainless steel, a MP35N stainless

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steel, a elgiloy, a stellite, a pyrolytic carbon, a silver carbon, a glassy carbon, a polymer, a polyamide, a polycarbonate, a polyether, a polyester, a polyolefin, a polyethylene, a polypropylene, a polystyrene, a polyurethane, a polyvinylchloride, a polyvinylpyrrolidone, a silicone elastomer, a fluoropolymer, a polyacrylate, a polyisoprene, a polytetrafluoroethylene, a rubber, a ceramic, a hydroxapatite, a human protein, a human tissue, an animal protein, an animal tissue, a bone, a skin, a tooth, a collagen, a laminin, a elastin, a fibrin, a wood, a cellulose, a compressed carbon and a glass.

240. (Previously presented) The medical device of claim 235 wherein the hydrophilic polymer is selected from the group consisting of a water-soluble polymer, a water-swellable polymer, a polymer comprising a hydrophilic chemical moiety, a polymer used to reduce friction on a surface, an acrylamide polymer, a methacrylamide polymer, a 2-acrylamido-2-methylpropane sulfonic acid polymer, an acrylic acid polymer, a N-(3-aminopropyl) methacrylamide hydrochloride polymer, a polyvinylpyrrolidone, a polyethylene oxide polymer, a saccharide, a glycan, a hyaluronic acid polymer, a chondroitin sulfate polymer, a poly(alkylene oxalate) polymer, poly(vinyl alcohol) polymer, an ionene polymer, a caprolactone copolymer, a chitin polymer, an agarose polymer, a cellulosic polymer, a poly(maleic anhydride) polymer and a polysaccharide.

241. (Previously presented) The medical device of claim 235 wherein the hydrophilic polymer is a naturally occurring hydrophilic polymer.

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242. (Previously presented) The medical device of claim 235 wherein the hydrophilic polymer is a chemically synthesized hydrophilic polymer.

243. (Previously presented) The medical device of claim 235 wherein the hydrophilic polymer has a molecular weight between about 100,000 and about 2,000,000.

244 - 245. (Canceled)

246. (Previously presented) The medical device of claim 235 wherein the biomolecule is selected from the group consisting of an anticoagulant agent, an antithrombotic agent, a clotting agent, a platelet agent, a blood agent, an anti-inflammatory, an antibody, an antigen, an immunoglobulin, a defense agent, an enzyme, a hormone, a growth factor, a neurotransmitter, a cytokine, a regulatory agent, a transport agent, a fibrous agent, a viral agent, a protein, a glycoprotein, a globular protein, a structural protein, a membrane protein, a cell attachment protein, a viral protein, a peptide, a glycopeptide, a structural peptide, a membrane peptide, a cell attachment peptide, a proteoglycan, a toxin, an antibiotic agent, antibacterial agent, antimicrobial agent, a polysaccharide, a carbohydrate, a fatty acid, a catalyst, a drug, a vitamin, a DNA segment, a RNA segment, a nucleic acid, a lectin, a dye and a ligand.

247. (Previously presented) The medical device of claim 235 wherein the biomolecule is a naturally occurring biomolecule.

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248. (Previously presented) The medical device of claim 235 wherein the biomolecule is a chemically synthesized biomolecule.

249. (Previously presented) The medical device of claim 235 wherein the hydrophilic polymer is chemically bonded to the surface of the medical device.

250 - 254. (Canceled)

255. (Previously presented) The medical device of claim 236 wherein the medical device is selected from the group consisting of a blood-contacting medical device, a tissue-contacting medical device, a bodily fluid-contacting medical device, an implantable medical device, an extracorporeal medical device, a blood oxygenator, a blood pump, a blood sensor, tubing for carrying blood, an endoprostheses medical device, a vascular graft, a stent, a pacemaker lead, a heart valve, temporary intravascular medical device, a catheter and a guide wire.

256. (Previously presented) The medical device of claim 236 wherein at least a portion of the surface forms at least one of a tube, a rod, a membrane, a balloon, a bag and a sheet.

257. (Previously presented) The medical device of claim 236 wherein the surface comprises at least one of a biocompatible material selected from the group consisting of a metal, a titanium, a titanium alloy, a tin-nickel alloy, a shape memory alloy, an aluminum oxide, a platinum, a platinum alloy, a stainless steel, a MP35N stainless

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steel, a elgiloy, a stellite, a pyrolytic carbon, a silver carbon, a glassy carbon, a polymer, a polyamide, a polycarbonate, a polyether, a polyester, a polyolefin, a polyethylene, a polypropylene, a polystyrene, a polyurethane, a polyvinylchloride, a polyvinylpyrrolidone, a silicone elastomer, a fluoropolymer, a polyacrylate, a polyisoprene, a polytetrafluoroethylene, a rubber, a ceramic, a hydroxapatite, a human protein, a human tissue, an animal protein, an animal tissue, a bone, a skin, a tooth, a collagen, a laminin, a elastin, a fibrin, a wood, a cellulose, a compressed carbon and a glass.

258. (Previously presented) The medical device of claim 236 wherein the hydrophilic polymer is selected from the group consisting of a water-soluble polymer, a water-swellable polymer, a polymer comprising a hydrophilic chemical moiety, a polymer used to reduce friction on a surface, an acrylamide polymer, a methacrylamide polymer, a 2-acrylamido-2-methylpropane sulfonic acid polymer, an acrylic acid polymer, a N-(3-aminopropyl) methacrylamide hydrochloride polymer, a polyvinylpyrrolidone, a polyethylene oxide polymer, a saccharide, a glycan, a hyaluronic acid polymer, a chondroitin sulfate polymer, a poly(alkylene oxalate) polymer, poly(vinyl alcohol) polymer, an ionene polymer, a caprolactone copolymer, a chitin polymer, an agarose polymer, a cellulosic polymer, a poly(maleic anhydride) polymer and a polysaccharide.

259. (Previously presented) The medical device of claim 236 wherein the hydrophilic polymer is a naturally occurring hydrophilic polymer.

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260. (Previously presented) The medical device of claim 236 wherein the hydrophilic polymer is a chemically synthesized hydrophilic polymer.

261. (Previously presented) The medical device of claim 236 wherein the hydrophilic polymer has a molecular weight between about 100,000 and about 2,000,000.

262 - 263. (Canceled)

264. (Previously presented) The medical device of claim 236 wherein the biomolecule is selected from the group consisting of an anticoagulant agent, an antithrombotic agent, a clotting agent, a platelet agent, a blood agent, an anti-inflammatory, an antibody, an antigen, an immunoglobulin, a defense agent, an enzyme, a hormone, a growth factor, a neurotransmitter, a cytokine, a regulatory agent, a transport agent, a fibrous agent, a viral agent, a protein, a glycoprotein, a globular protein, a structural protein, a membrane protein, a cell attachment protein, a viral protein, a peptide, a glycopeptide, a structural peptide, a membrane peptide, a cell attachment peptide, a proteoglycan, a toxin, an antibiotic agent, antibacterial agent, antimicrobial agent, a polysaccharide, a carbohydrate, a fatty acid, a catalyst, a drug, a vitamin, a DNA segment, a RNA segment, a nucleic acid, a lectin, a dye and a ligand.

265. (Previously presented) The medical device of claim 236 wherein the biomolecule is a naturally occurring biomolecule.

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266. (Previously presented) The medical device of claim 236 wherein the biomolecule is a chemically synthesized biomolecule.

267. (Previously presented) The medical device of claim 236 wherein the hydrophilic polymer is chemically bonded to the surface of the medical device.

268 - 272. (Canceled)

273. (Previously presented) The medical device of claim 233 wherein the medical device is selected from the group consisting of a blood-contacting medical device, a tissue-contacting medical device, a bodily fluid-contacting medical device, an implantable medical device, an extracorporeal medical device, a blood oxygenator, a blood pump, a blood sensor, tubing for carrying blood, an endoprostheses medical device, a vascular graft, a stent, a pacemaker lead, a heart valve, temporary intravascular medical device, a catheter and a guide wire.

274. (Previously presented) The medical device of claim 233 wherein at least a portion of the surface forms at least one of a tube, a rod, a membrane, a balloon, a bag and a sheet.

275. (Previously presented) The medical device of claim 233 wherein the surface comprises at least one of a biocompatible material selected from the group consisting of a metal, a titanium, a titanium alloy, a tin-nickel alloy, a shape memory alloy, an aluminum oxide, a platinum, a platinum alloy, a stainless steel, a MP35N stainless

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steel, a elgiloy, a stellite, a pyrolytic carbon, a silver carbon, a glassy carbon, a polymer, a polyamide, a polycarbonate, a polyether, a polyester, a polyolefin, a polyethylene, a polypropylene, a polystyrene, a polyurethane, a polyvinylchloride, a polyvinylpyrrolidone, a silicone elastomer, a fluoropolymer, a polyacrylate, a polyisoprene, a polytetrafluoroethylene, a rubber, a ceramic, a hydroxapatite, a human protein, a human tissue, an animal protein, an animal tissue, a bone, a skin, a tooth, a collagen, a laminin, a elastin, a fibrin, a wood, a cellulose, a compressed carbon and a glass.

276. (Previously presented) The medical device of claim 233 wherein the hydrophilic polymer is selected from the group consisting of a water-soluble polymer, a water-swellable polymer, a polymer comprising a hydrophilic chemical moiety, a polymer used to reduce friction on a surface, an acrylamide polymer, a methacrylamide polymer, a 2-acrylamido-2-methylpropane sulfonic acid polymer, an acrylic acid polymer, a N-(3-aminopropyl) methacrylamide hydrochloride polymer, a polyvinylpyrrolidone, a polyethylene oxide polymer, a saccharide, a glycan, a hyaluronic acid polymer, a chondroitin sulfate polymer, a poly(alkylene oxalate) polymer, poly(vinyl alcohol) polymer, an ionene polymer, a caprolactone copolymer, a chitin polymer, an agarose polymer, a cellulosic polymer, a poly(maleic anhydride) polymer and a polysaccharide.

277. (Previously presented) The medical device of claim 233 wherein the hydrophilic polymer is a naturally occurring hydrophilic polymer.

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278. (Previously presented) The medical device of claim 233 wherein the hydrophilic polymer is a chemically synthesized hydrophilic polymer.

279. (Previously presented) The medical device of claim 233 wherein the hydrophilic polymer has a molecular weight between about 100,000 and about 2,000,000.

280. (Previously presented) The medical device of claim 233 wherein the surface comprises a primer.

281. (Previously presented) The medical device of claim 280 wherein the primer comprises the catechol moiety.

282. (Previously presented) The medical device of claim 234 wherein the device is selected from the group consisting of a blood-contacting medical device, a tissue-contacting medical device, a bodily fluid-contacting medical device, an implantable medical device, an extracorporeal medical device, a blood oxygenator, a blood pump, a blood sensor, tubing for carrying blood, an endoprostheses medical device, a vascular graft, a stent, a pacemaker lead, a heart valve, temporary intravascular medical device, a catheter and a guide wire.

283. (Previously presented) The medical device of claim 234 wherein at least a portion of the surface forms at least one of a tube, a rod, a membrane, a balloon, a bag and a sheet.

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284. (Previously presented) The medical device of claim 234 wherein the surface comprises at least one of a biocompatible material selected from the group consisting of a metal, a titanium, a titanium alloy, a tin-nickel alloy, a shape memory alloy, an aluminum oxide, a platinum, a platinum alloy, a stainless steel, a MP35N stainless steel, a eligloy, a stellite, a pyrolytic carbon, a silver carbon, a glassy carbon, a polymer, a polyamide, a polycarbonate, a polyether, a polyester, a polyolefin, a polyethylene, a polypropylene, a polystyrene, a polyurethane, a polyvinylchloride, a polyvinylpyrrolidone, a silicone elastomer, a fluoropolymer, a polyacrylate, a polyisoprene, a polytetrafluoroethylene, a rubber, a ceramic, a hydroxapatite, a human protein, a human tissue, an animal protein, an animal tissue, a bone, a skin, a tooth, a collagen, a laminin, a elastin, a fibrin, a wood, a cellulose, a compressed carbon and a glass.

285. (Previously presented) The medical device of claim 234 wherein the hydrophilic polymer is selected from the group consisting of a water-soluble polymer, a water-swelling polymer, a polymer comprising a hydrophilic chemical moiety, a polymer used to reduce friction on a surface, an acrylamide polymer, a methacrylamide polymer, a 2-acrylamido-2-methylpropane sulfonic acid polymer, an acrylic acid polymer, a N-(3-aminopropyl) methacrylamide hydrochloride polymer, a polyvinylpyrrolidone, a polyethylene oxide polymer, a saccharide, a glycan, a hyaluronic acid polymer, a chondroitin sulfate polymer, a poly(alkylene oxalate) polymer, poly(vinyl alcohol) polymer, an ionene polymer, a caprolactone copolymer, a chitin polymer, an agarose polymer, a cellulosic polymer, a poly(maleic anhydride) polymer and a polysaccharide.

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286. (Previously presented) The medical device of claim 234 wherein the hydrophilic polymer is a naturally occurring hydrophilic polymer.

287. (Previously presented) The medical device of claim 234 wherein the hydrophilic polymer is a chemically synthesized hydrophilic polymer.

288. (Previously presented) The medical device of claim 234 wherein the hydrophilic polymer has a molecular weight between about 100,000 and about 2,000,000.

289. (Previously presented) The medical device of claim 234 wherein the surface comprises a primer.

290. (Previously presented) The medical device of claim 289 wherein the primer comprises the guanidino moiety.

291. (Previously presented) The medical device of claim 235 wherein the surface comprises a primer.

292. (Previously presented) The medical device of claim 236 wherein the surface comprises a primer.